

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1. (Previously presented): A water-lifting pump apparatus comprising:

a suction tank;

a discharge tank;

a pump for pumping water in said suction tank into said discharge tank, and a discharge piping connected to a discharge side of the pump;

actuating means for driving said pump and controlling a rotational speed of said pump;

a reverse flow preventing mechanism for preventing a reverse flow of water pumped into said discharge tank toward said discharge piping; and

back flow rate control means for controlling a rotational speed of said pump while keeping the pump rotation in a normal direction such that reverse water flows in said pump within the limits of allowing vibrations of said pump based on a detected value of a pressure, a water level, or a flow rate of water in said discharge piping falling from said suction piping into said suction tank when pumping operation is finished, thereby to lower the water level gradually in said discharge piping.

2. (Original): A water-lifting pump apparatus according to claim 1, wherein said reverse flow preventing mechanism comprises an overflow mechanism having a dam disposed in said discharge tank.

3. (Original): A water-lifting pump apparatus according to claim 1, wherein said reverse flow preventing mechanism comprises a reverse flow prevention valve disposed on a distal end of said discharge piping.

4. (Original): A water-lifting pump apparatus according to claim 1, wherein said reverse flow preventing mechanism comprises a siphonic pipe disposed in said discharge piping.

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Previously presented): A water-lifting pump apparatus comprising:

a suction tank;

a discharge tank;

a pump for pumping water in said suction tank into said discharge tank, and a discharge piping connected to a discharge side of the pump, said pump having a movable vane mechanism for adjusting the vane angle of an impeller;

a reverse flow preventing mechanism for preventing a reverse flow of water pumped into said discharge tank toward said discharge piping; and

back flow rate control means for adjusting the vane angle of said impeller of said pump such that reverse water flows in said pump within the limits of allowing vibrations of said pump based on a detected value of a pressure, a water level, or a flow rate of water in said discharge piping falling from said suction piping into said suction tank when pumping operation is finished, thereby to lower the water level gradually in said discharge piping.

9. (Currently amended): A water-lifting pump apparatus according to ~~any one of claims 1 through 4 and 8~~ claim 1, further comprising:

a reversal prevention device for preventing said actuating means from being reversed.

10. (Previously presented): A method of controlling operation of a water-lifting pump apparatus for pumping water in a suction tank into a discharge tank with a pump and a discharge piping connected to a discharge side of the pump, comprising:

after the pumping operation is finished, detecting a pressure, a water level, or a flow rate of water in said discharge piping falling from said discharge piping into said suction tank; and

controlling a rotational speed of said pump while keeping the pump rotation in a normal direction such that reverse water flows in said pump within the limits of allowing vibrations of said pump based on said detected value, thereby to lower the water level gradually in said discharge piping.

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)